

What is claimed is:

1. An apparatus for detecting obstacles comprising:
an antenna including a single electrically conductive element;
a signal processing circuit including a microprocessor;
a computer program;

5 a transceiver transmitting an oscillating digital electronic signal to the antenna and generating a feedback signal of the electronic signal passing through the antenna, the transmitted electronic signal generating an electromagnetic field around the antenna, wherein the signal processing circuit has as an input the antenna feedback
10 signal generated by the transceiver, and wherein the voltage and frequency of the oscillating digital electronic signal transmitted through the antenna is controlled by the micro-processor according to the computer program, and wherein, when an obstacle enters the generated electromagnetic field around the antenna, the antenna feedback
15 signal changes, the change being detected by the signal processing circuit, and wherein a signaling means generates an output signal upon detection by the signal processing circuit of a change in the electronic signal passing through the antenna.

2. An apparatus according to Claim 1 wherein the digital electronic signal oscillates in the radio frequency.

20 3. An apparatus according to Claim 1 wherein the voltage of the oscillating digital electronic signal is adjustable, and wherein adjustment of said voltage adjusts the region in which obstacles can be detected.

- 25 4. An apparatus according to Claim 1 wherein the antenna is a single electrically conductive element surrounded by an insulating layer of material.

5. An apparatus according to Claim 1 wherein the antenna is an element of an object to which it is attached.

6. An apparatus according to Claim 5 wherein the object is a metallic fender of a vehicle having a body, the fender being mounted on the body by electrically isolating mounting means.

7. An apparatus according to Claim 1 wherein the output signal varies according to the magnitude of change in voltage of the electronic signal passing through the antenna, and wherein the variation in output signal is controlled by the microprocessor in accordance with the computer program.

8. An apparatus according to Claim 7 wherein the computer program provides a number of discrete output signals, and wherein change from one output signal to another output signal is determined by the monitored voltage in the antenna.

9. An apparatus according to Claim 1 wherein the apparatus includes an alarm device, and the output signal is received by the alarm device, the alarm device generating an alarm signal upon receipt of said output signal.

10. An apparatus according to Claim 9 wherein the alarm output is an acoustic alarm.

11. An apparatus according to Claim 1 wherein the digital electronic signal is transmitted at 143 KHz and 0.25 Volts.

12. A method for detecting obstacles using the apparatus of Claim 1, in which the transceiver generates an oscillating digital electronic signal, transmits the said signal to an antenna, and generates a feedback signal of an electronic signal passing through the antenna, the transmitted electronic signal generating an electromagnetic field around the said antenna; and the signal processing circuit

receives and processes the antenna feedback signal according to the computer program, and generates an output signal upon detection of an obstacle in the generated electromagnetic field.